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EJS

11/30/98
DIV. OF OIL, GAS & MINING

Re: Dust effects on orchards

There are a number of reasons why the orchardist must control the amount of dust that settles on the tree, foliage and fruit of his orchard. Some of them are:

1. Close observation of the fruit trees in southern Utah County over the past several years has shown that the present background level of particulate on the leaves and fruit is having a negative effect on the integrated pest management (IPM) system that is being used to reduce the required use of pesticides in these orchards.

A slight increase in the amount of dust could result in the necessity of applying 2 to 4 applications of miticide per year. This would result in a \$250 to \$500 per acre increase in your per acre cost of pest control and would also result in some loss of fruit color and quality.

A significant increase in the amount of dust on the foliage and fruit of your orchards may result in an inability to control the mite populations (*Orchard Pest Management by Drs. Beers, Brunner, Willett and G.M. Warner & experience of Dr. Earl J. Seeley and others*). There have been a number of law suits filed and persuaed over "fugitive dust" from crusher and road surfacing projects in the state of Utah. In Utah, I am not aware of any that have gone to trial, as settlement was made before reaching that stage. In Washington State (Okanogan County) a Mrs. Wilson blocked access through her orchard for a construction company who was doing a road surfacing project

for the Washington State Highway department. The state sued for access and damages; she counter sued. The case was heard in Okanogan County Superior Court (The State of Washington vs Wilson) and Mrs. Wilson prevailed (was awarded over \$90,000 for damages on her 30 acre orchard). Other similar cases are on the record in California and Oregon, and we may see one filed in the Lehi area from damages that occurred during the 1998 growing season (pending settlement).

Any orchardist in the valley can recite experiences of heavy mite populations resulting from dust along orchard roadways or other "dust sources" and most orchardists make significant efforts to limit dust from these internal sources.

2. In addition to the direct effects of dust on pest management programs there may be even more important direct and indirect effects on tree growth, fruit quality and yield, and the marketability of fruit grown.

A. On peaches I have seen several cases where the amount of dust that accumulated in the "peach fuzz" rendered the fruit unusable. There is no economic way of removing this dust and it would be a severe problem if background levels were doubled in southern Utah County.

B. On peaches and tart cherries I have observed heavy pre-harvest dust levels resulting in small fruit size, an uneven ripening of individual fruits, a loss of fruit color, and, where the dust resulted in uncontrollable McDaniel and Two Spotted mite populations I have seen severe effects on tree vigor and productive potential in subsequent years. In severe cases a significant percentage of tart cherry trees will die of "drought shock" following mechanical harvest.

C. In Apple orchards the first indirect effect observed will be a loss of effective leaf surface due to mite populations. This loss will always result in some degree of loss of red pigment in the apples. Anyone familiar with market conditions knows

that this will severely impact the value of the fruit. If the heavy dust conditions persist through most of the season, fruit size will be adversely affected as well as flower bud formation for the following years crops.

Under present production and market conditions significant increases in the "fugitive dust" your orchards are exposed to will have very important negative impacts on your orchards economic viability. If a crusher, batch plant or asphalt plant is established near your orchards you should assume there will be damage and prepare to document that damage. In every claim, or court case I have been involved in where "fugitive dust" damage was involved the growers case and recovery was adversely impacted because information and data was not gathered in a timely manner.